

# TRANSCRIPT OF PROCEEDINGS

IN THE MATTER OF: )  
 )  
STAKEHOLDERS MEETING )  
CONTROLLED PHARMING VENTURES )  
 )

Pages: 1 through 33  
Place: Riverdale, Maryland  
Date: February 26, 2004

**HERITAGE REPORTING CORPORATION**

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IN THE UNITED STATES DEPARTMENT OF AGRICULTURE  
 IN THE MATTER OF: )  
 )  
 STAKEHOLDERS MEETING )  
 CONTROLLED PHARMING VENTURES )  
 )

Training Room 1  
 4700 River Road  
 Riverdale, Maryland

Thursday,  
 February 26, 2004

The parties met, pursuant to the notice, at  
 12:49 p.m.

BEFORE: CINDY SMITH  
 Deputy Administrator

APPEARANCES:

USDA, APHIS and BRS:

REBECCA BECH, Associate Deputy Administrator  
 SUSAN KOEHLER  
 JOHN TURNER  
 NEIL HOFFMAN  
 MICHAEL WACH

APPEARANCES (CONT.):

For the Controlled Pharming Ventures:

DOUGLAS W. AUSENBAUGH, President

Participants:

LEVIS HANDLEY

CRAIG ROSELAND

MICHAEL BLANCHETTE

1                                  P R O C E E D I N G S

2 (12:49 p.m.)

3 MS. SMITH: We're going to go ahead and get  
4 started. Okay, welcome to our stakeholder discussion  
5 series on our upcoming Environmental Impact Statement  
6 or EIS and our revised plant biotechnology regulation.  
7 We want to thank you for taking time from your busy  
8 schedule to participate in this meeting and share your  
9 thoughts with us today.

10           The purpose of these meetings is primarily  
11 two-fold. First, to give us an opportunity to share  
12 information about our plans to complete an EIS as well  
13 as updating our regulations, and then secondly, to  
14 gather diverse and informative input which will affect  
15 decision making in our upcoming plan revisions.

16           We have here from BRS most of our management  
17 team as well as several other staff members, and when  
18 available, other key agency personnel who are involved  
19 in supporting BRS in this effort.

20 I should also mention two key individuals  
21 who have now been dedicate to providing full time  
22 management of our work to complete both the EIS and  
23 our new planned regulations. The first is John  
24 Turner, whom I see you have already met. John is a  
25 very important member of our leadership team here in

1 BRS. I'm pleased to say John is providing overall  
2 leadership to the effort on a full time basis.

3           And a second individual, a new face which  
4 you may not be familiar with is Michael Wach, a recent  
5 BRS hire as an environmental protection specialist  
6 within our environmental and ecological analysis unit.  
7 In addition to possessing a Ph.D. and an  
8 Environmental Law J.D., Michael brings research  
9 experience in plant pathology and weed science, as  
10 well as legal experience working on cases involving  
11 NEPA, the Clean Water Act, the Clean Air Act and other  
12 environmental laws.

13           MR. AUSENBAUGH: Michael, what's your last  
14 name?

15           MR. WACH: W-A-C-H.

16           MS. SMITH: At this point, I'm going to turn  
17 it over to John Turner, who is going to provide you  
18 some additional background information and then when  
19 John concludes his remarks, then you'll be free to use  
20 the time as you'd like.

21           MR. AUSENBAUGH: Great, thanks.

22           MR. TURNER: As you may know, we recently  
23 had discussions with FDA, EPA and the White House on  
24 future regulations. We've concluded that the  
25 coordinated framework has worked very well to date

1 providing a science and risk based approach for  
2 biotechnology. But we recognize that under the Plant  
3 Protection Act of 2000 there is a unique opportunity  
4 for APHIS to revise our regulations and potentially  
5 expand our authority, while still leveraging the  
6 experience we've gained over the years with the  
7 current framework. These revisions might position us  
8 well for future advancements of technology.

9           We concluded the discussions with an overall  
10 agreement on how our biotechnology regulatory approach  
11 would evolve. Still, it's early in the process and so  
12 there is still an opportunity for the public and  
13 stakeholder to provide input as we develop the  
14 specifics of the regulations. Given this, what we  
15 would like to do in these meetings is to give you the  
16 opportunity to speak. We want to hear your thoughts  
17 and also have an informal give and take on the issues.  
18 It's a unique opportunity to have this discussion now,  
19 because we're not yet in the formal rulemaking  
20 process. So we're free to speak and openly share  
21 ideas with stakeholders and the public.

22           In terms of the transcriber, we're having  
23 these discussions professionally transcribed for two  
24 reasons. First, we want an accurate record of our  
25 discussions to facilitate our ability to capture and

1 refer to your input in the future. And secondly, in  
2 the interest of transparency and fairness to all  
3 stakeholders, we will be making public as part of the  
4 public record and potentially on our website,  
5 documentation on all the stakeholder discussions. So  
6 the public and the other stakeholders will have the  
7 benefit of the discussions that we will be conducting  
8 this week.

9 I want to emphasize that while we're happy  
10 to share information on the direction we're likely to  
11 take during the process, what we're sharing is our  
12 current thinking. And during the process, public and  
13 stakeholder input is going to influence that thinking.  
14 In addition to the public and stakeholder input, other  
15 officials within USDA, such as the Administrator, the  
16 Undersecretary or Office of General Counsel and the  
17 Secretary, will also provide insight as well.

18 So while we value all that, it is important  
19 to recognize that our thinking will likely evolve. So  
20 while we can have enthusiastic discussions today on  
21 any one point, we just need to recognize that it is a  
22 part of a process.

23 MR. AUSENBAUGH: Sure.

24 MR. TURNER: So on that note, since it's  
25 hard to predict exactly what the final regulation

1 would look like, I'd like to share some overall  
2 priority areas of emphasis to set direction and help  
3 guide the development and implementation of the  
4 regulatory policy.

5           The first of these is rigorous regulation,  
6 which thoroughly and appropriately evaluates safety  
7 and is supported by strong compliance and enforcement.

8           The second is transparency of the regulatory  
9 process and decision making to stakeholders and the  
10 public and transparency, of course, is crucial to  
11 maintaining public confidence.

12           The next is we want a science-based system.  
13 We need to insure the best possible science is used  
14 to support regulatory decision making and that helps  
15 to assure safety. We recognize the importance of  
16 communication, coordination and collaboration with a  
17 full range of stakeholders. We also recognize the  
18 importance of international leadership to insure that  
19 international biotech standards are science based, to  
20 also support international regulatory capacity  
21 building and we need to consider the international  
22 implications of any regulatory decisions that we make.

23           So with that, I think we're ready to turn  
24 the floor over to you.

25           MR. AUSENBAUGH: Great.



1                   MR. TURNER: Go ahead and state your name  
2 one time if the transcriber doesn't have it and the  
3 floor is yours.

4                   MR. AUSENBAUGH: Sure, and after our  
5 discussions yesterday, Cindy, I felt probably the best  
6 method of kind of letting you know who I am and why  
7 I'm here is to just prepare a short written statement  
8 and I figured I could just read that into the record  
9 and then just open it up for an open dialogue.

10                  MS. SMITH: Great.

11                  MR. AUSENBAUGH: I think that will at least  
12 put us at a good starting point. My name is Doug  
13 Ausenbaugh and I am the founder and president of  
14 Controlled Pharming Ventures L.L.C. Our mailing  
15 address is 11912 Sand Dollar Circle, Indianapolis,  
16 Indiana 46256 and our phone number is (317) 598-0525  
17 and I can be reached via e-mail at  
18 doug@ausenbaugh.com.

19                  I responded to BRS' invitation to meet today  
20 because Controlled Pharming Ventures' primary business  
21 centers on the contained and controlled production of  
22 plants and crops that have been genetically engineered  
23 to contain pharmaceutical and industrial compounds,  
24 which I'll call pharma plants. Our business is  
25 affected in a significant manner by the proposed

1 changes in the APHIS regulations and for that reason I  
2 felt it was appropriate to meet with you.

3               With Purdue University and Indiana  
4 University as research partners, we have commenced a  
5 proof of concept of a contained production system for  
6 pharma plants in a unique underground setting. Our  
7 system is designed to offer a safe production  
8 alternative for pharma plants while offering a  
9 significant value proposition to makers of biologic  
10 drugs through reduced costs and drug development time.

11              As science progresses and the shape of the  
12 world's agricultural markets continue to evolve,  
13 value-added agricultural research and production,  
14 including that of genetically engineered crops in the  
15 United States, has become increasingly important.  
16 Pharma plants in particular offer the promise of  
17 creating life-saving biological drugs for humans and  
18 animals safer, faster and cheaper. However,  
19 confinement concerns of pharma plants produced in a  
20 field environment have hampered research activity and  
21 investment in the area. This incomplete research has  
22 caused the benefits of plant-made pharmaceuticals to  
23 remain undefined, possibly reducing future research  
24 investment even more. This potential "catch-22"  
25 threatens a valuable solution that could eliminate

1 capacity concerns for biologic drugs for both humans  
2 and animals and reduce the cost of health care.

3           Controlled Pharming Ventures supports the  
4 notion that the integrity of the food production  
5 system and the safety of the environment are of  
6 paramount importance in establishing the regulatory  
7 framework for genetically engineered organisms. The  
8 efforts of the USDA and other agencies help make our  
9 agricultural production system second to none by  
10 establishing practical, science-based regulations.

11           We support APHIS' consideration of a new  
12 mechanism involving APHIS, the States, and the  
13 producers of pharma plants for confined development  
14 and production. Until biologic confinement is  
15 assured, physical confinement and containment is  
16 necessary and adventitious presence of pharma plants  
17 should be prevented. The benefits of confinement and  
18 containment include:

19           The isolation of the pharma plant from the  
20 ecosystem addressing environmental impact concerns.

21           The ability to regulate a contained  
22 production system more efficiently.

23           Regulatory compliance is easier to audit.

24           An infrastructure totally separate from the  
25 food production system;

1           And locations can be hidden from view and  
2   secured against risk including natural disaster,  
3   disease and terrorist attacks.

4           In summary, plant-made pharmaceuticals offer  
5   the potential to ease capacity concerns of biologic  
6   drug production while offering a potentially safer and  
7   less expensive alternative. Physical containment and  
8   confinement of pharma plants offers a practical,  
9   scalable and cost effective alternative while  
10  maintaining the safety of our agricultural production  
11  system.

12           The mechanism APHIS is considering as  
13  discussed previously will address concerns of pharma  
14  plant production and stimulate research in this very  
15  important area.

16           Thank you for your time and with that, I  
17  guess I'll just open it up for questions. Hopefully,  
18  I've generated a few.

19           MS. SMITH: Okay, and you can certainly ask  
20  us any questions for clarification you have about our  
21  Federal Register notice, as well.

22           MR. AUSENBAUGH: Sure, I do have one  
23  question and it primarily deals with number six on  
24  page 3272 where you talk about the new mechanism. I  
25  assume you're looking at a separate permitting process

1 that would involve the states as well as some  
2 predefined regulations of APHIS and like you said, the  
3 producers to get that done?

4 MS. SMITH: Yes, we're open to what the  
5 mechanism will look like, but generally what you're  
6 talking about is accurate. Some separate or some  
7 unique regulatory mechanism that we would use that  
8 could provide more transparency and it could be more  
9 efficient as we look at essentially the situation  
10 where field tests would need to be conducted year  
11 after year for commercialization purposes. So that  
12 generally is what we're talking about. And we're open  
13 for suggestions about what that should be.

14 MR. AUSENBAUGH: Sure, okay.

15 MS. SMITH: I have a question for you.

16 MR. AUSENBAUGH: Sure.

17 MS. SMITH: You referred to the approach that  
18 you're taking is one that's scalable. Can you give us  
19 a sense if you're working underground what kind of  
20 scale we can talk about?

21 MR. AUSENBAUGH: Our prototype facility and  
22 I've actually got a couple pictures of it I can share  
23 with you is, we're putting our prototype facility in a  
24 three million square foot, I'll put it a depleted  
25 limestone mine that is now a working warehouse in

1 southern Indiana. We've done a lot of preliminary  
2 estimates with folks that have done limestone mining  
3 in the past and we estimate that there's tens of  
4 thousands of acres of this type of space available in  
5 the United States.

6           Not only that, but because limestone mining  
7 produces revenues, new space can be created as needed.  
8 There are a number of unique features that make this  
9 a potentially attractive alternative. Number one of  
10 which is just the natural physical security of the  
11 space. There's one way out, there's one way in, one  
12 way out. It is a space that has a very stable  
13 climatic environment, from a temperature standpoint,  
14 in that the temperature is about 51, between 51 and 53  
15 degrees. It's naturally totally dark, so whenever our  
16 official light is used, the heat from the lights is  
17 used to heat the crop.

18           One of the road blocks in contained  
19 production above ground is a changing temperature  
20 occasionally and you also have heat build up. With  
21 all the limestone that we have, we have a natural heat  
22 sink and we can really control the temperature as much  
23 or as little as we want.

24           There is also a number of environmental  
25 conditions which are not necessarily for corn, but for

1 other types of plants, are beneficial for plant growth  
2 in terms of yield enhancement, whether it be enhanced  
3 natural CO<sub>2</sub> levels or the ability to change the  
4 environment. But there is a lot of this type of space  
5 available, and frankly, we are designing our system so  
6 that if it is necessary to be done in a warehouse, for  
7 instance, that it could be done.

8 MR. HOFFMAN: What sort of crops are you  
9 thinking of?

10 MR. AUSENBAUGH: We are going to start with  
11 corn and that was based on a lot of market research  
12 that we've done. Corn for a number of reasons makes a  
13 lot of sense to us. Number one, if we can design a  
14 system that can grow corn effectively, we can probably  
15 grow just about anything. Corn has kind of shown to  
16 be one of the most difficult things to grow in a  
17 contained and controlled environment using totally  
18 artificial light.

19 From an intellectual property perspective,  
20 there is a lot of work being done on corn and a lot of  
21 ability for more work to be done on corn. And then  
22 also just the inherent work ability that corn has  
23 shown in the past with regards to genetic engineering.

24 We're also probably depending on funding.  
25 We'll look into doing some alfalfa and tomatoes

1 upfront, as well. We also have considered a number of  
2 very leafy vegetables. We are working with a  
3 gentleman at Purdue University by the name of Dr. Cary  
4 Mitchell, who is a controlled environment specialist  
5 at Purdue. He has done a lot of work with NASA with  
6 regards to the optimization of inputs for a potential  
7 trip to Mars, for instance. How do you grow crops  
8 quickly and efficiently? And we hope to use some of  
9 that technology to enhance a value proposition for  
10 producers of pharma plants.

11 MR. WACH: Some of the biotechnology events,  
12 you'll be developing other, some of your space would  
13 be contracted out for other people to use?

14 MR. AUSENBAUGH: I think from a business  
15 plan standpoint, we had originally envisioned being a  
16 contract research facility, in essence, where if folks  
17 needed research performed on these pharma plants that  
18 they wanted to turn around, that was what we had  
19 originally envisioned.

20 In further discussions with potential users  
21 of this facility, we see the potential if we're able,  
22 to show how we can optimize growth and accelerate  
23 growth in these types of crops. We see the potential  
24 as a true production alternative from a contract  
25 manufacturing standpoint.



1           As the use of biologic drugs increases, a  
2 trend that follows right with that is the increasing  
3 outsourcing of manufacturing services and that's, from  
4 a business standpoint, I think that's the niche that  
5 we've targeted at this point.

6           MR. WACH: So you may actually do the  
7 extraction underground as well?

8           MR. AUSENBAUGH: That's down the road. For  
9 the purposes of this discussion, our goal is to work  
10 with the folks that are trying to grow pharma plants  
11 and help them grow them most effectively. If somebody  
12 came to me today and said that they wanted to do that,  
13 I would tell them that we would help them grow the  
14 plant and then they would be responsible for the  
15 extraction. At some point, it's probably feasible or  
16 makes sense to do the extraction and purification at a  
17 close location to where we have these facilities and  
18 we do have ample room for that, for instance, at our  
19 prototype facility.

20           MR. ROSELAND: If you had multiple crops of  
21 the same type, don't you enhance your possibilities of  
22 gene flow to those crops in an underground situation?

23           MR. AUSENBAUGH: Just because there's no  
24 other way out, is that --

25           MR. ROSELAND: Just because everything is

1 confined. When pollen is produced, it's going to be  
2 everywhere within your facility.

3 MR. AUSENBAUGH: First of all and you'll  
4 have to forgive me, because I could sit here and talk  
5 about what the facility looks like for hours and show  
6 you pictures. Until you actually see the facility, it  
7 doesn't do it justice.

8 That is less of a concern to me than it  
9 originally was. There is a lot of natural containment  
10 and areas of our facility can be segregated very well.  
11 Part of what our aim would be would be the ability to  
12 meet, for instance, NIH guidelines with regards to  
13 biosafety levels as necessary.

14 Again, we've got a very good kind of  
15 starting point for that type of containment. My sense  
16 would be that if we were to ever get into commercial  
17 production, the need for numerous physically separate  
18 facilities like this would be necessary.

19 MR. HOFFMAN: So do you have a prototype  
20 that's already been built?

21 MR. AUSENBAUGH: We've got a prototype on  
22 paper. We hope to have a prototype up and running by  
23 the end of the summer with Purdue University.  
24 Controlled Pharming Adventures was started last  
25 summer, around the same time that we met. And between

1 then and now, again, we've joined up with Purdue  
2 University from a controlled environment perspective,  
3 and Indiana University from a warm place, safety  
4 perspective, to move forward on our technology. And  
5 we just recently were awarded, subject to state budget  
6 committee approval, a \$2 million grant from the  
7 Indiana 21st Century Research and Technology Fund to  
8 build the prototype and to do the feasibility study.

9           We've also applied for an NIH grant for the  
10 Small Business Biodefense Program, where our aim would  
11 be to help accelerate the production of drugs aimed  
12 toward the pathogens on the priority list.

13           MR. HOFFMAN: So my picture of a mine is a  
14 very dark, dingy, dirty place. I'm just wondering to  
15 what extent do you have ventilation?

16           MR. AUSENBAUGH: As I said, this is a  
17 working mine. It's over three million square feet. A  
18 small portion of it right now is being used by a large  
19 tire company. They have over one million tires in one  
20 part of the mine over here that they use for, you  
21 know, for inventory.

22           We have the ability to, that's a finished  
23 outportion of what we're doing. Ironically, I don't  
24 have that picture with me. I can get you additional  
25 pictures if you'd like and I'd be more than happy to.

1 But it's pretty neat.

2           You drive into the side of a cliff, in  
3 essence, and you can literally drive a semi-truck in  
4 there and turn it around. We figure that we've got,  
5 right now, if everything were, we could build out over  
6 60 acres of production space in this one particular  
7 facility.

8           There are numerous other locations. I've  
9 spent most of my time in locations in Indiana. There  
10 is a north 100 acre potential facility on the south  
11 side of Indianapolis and there are others around the  
12 country. As I said, there are actually other working  
13 warehouses, as well, of this type. We just happened  
14 to be blessed in Indiana to have one like this that is  
15 just a terrific facility from an infrastructure  
16 perspective. We've got plenty of water and power.

17           MR. TURNER: Back to Neil's question. When  
18 you started, I imagine it was rocky walls or  
19 something. Did you build it out to seal it, the  
20 sides?

21           MR. AUSENBAUGH: The way limestone is mined  
22 and I'm trying to remember the exact -- it's called  
23 the pillar and table method, I think. I'm not sure of  
24 the exact way it's called. But essentially when you  
25 go in there to try and describe what it is, it's like

1 if you're in a convention center and there are these  
2 huge rooms that are just long. And every 20 feet or  
3 so there is a 20 foot square pillar, but then there's  
4 this real long, it's almost, you know, if you're  
5 walking in there with an underground pharming hat on,  
6 you see these potential very long rows of crops with  
7 all these staging areas on each side of them that you  
8 could grow. So it's, this facility in particular is  
9 very large. We think that it will meet our needs for  
10 the next couple of years. But, you know, part of what  
11 from a business standpoint, again, what we're selling,  
12 is a scalable solution and we hope to be able to  
13 emulate this in other areas.

14 MS. KOEHLER: How would you envision the  
15 cost of contracting with you to grow say,  
16 pharmaceutical producing corn, compared to someone  
17 being able to grow it in a field?

18 MR. AUSENBAUGH: Right. From a field  
19 production standpoint, we cannot compete on just an  
20 absolute dollar for dollar cost basis. Until we  
21 actually grow the crops in a facility, we will not  
22 have, from an overall infrastructure build out, we  
23 estimate that our costs will be very similar to that  
24 of an above ground greenhouse.

25 Our base space is substantially less. Our

1 lighting cost is actually going to be higher. We do  
2 think that our overall operating costs underground  
3 will be lower than they would be above ground. We  
4 will have a higher lighting cost, but the power cost  
5 will be less because we don't have to artificially  
6 cool it.

7           We hope to add value to the producers of  
8 these types of crops by, number one, enhancing yields,  
9 speeding up time of production. WE think that we've  
10 got the potential to maybe put out four generations of  
11 corn per year using the same space. If we're able to  
12 do that and enhance yield, certainly, even though the  
13 absolute dollar costs on a field test basis might not  
14 be the same, I can probably go to a -- probably look  
15 at a field test and put into play a lot of intangible  
16 costs that we wouldn't have with our solution.

17           MR. WACH: If you're going to have four crop  
18 turnovers a year, what are you going to do with -- I  
19 assume this isn't going to be hydroponic? They're  
20 going to be in soil?

21           MR. AUSENBAUGH: We're going to start with  
22 using pots of some sort of growth medium. At that  
23 point, I don't know. I could certainly get back to  
24 you with --

25           MR. WACH: So you're going to have a lot of

1 soil, I assume you're going to reuse that, so you  
2 don't have to get rid of it?

3 MR. AUSENBAUGH: We would dispose of it.  
4 This is all part of the framework that we're still  
5 developing. It can be autoclaved and disposed of, but  
6 yes, we have, we realize that's all part of the  
7 questions that we still need to answer.

8 Depending on what we were growing, and  
9 again, we're hoping to build a robust system, that if  
10 somebody comes to us and says, we'd like to use a  
11 hydroponic system, we could be able to accommodate  
12 them. At one point we looked at almost a traditional  
13 farming solution, where we could literally ship in the  
14 dirt and put it on the floor. What we might put under  
15 that, I don't know. And you know, that's something  
16 that could potentially happen at some point, but at  
17 this point, we're going to start our proofing concept  
18 using pots.

19 MR. WACH: Are you part of an aquifer based  
20 system?

21 MR. AUSENBAUGH: We would draw on city  
22 water.

23 MR. WACH: But are you, because aren't there  
24 some aquifers in the area? If you were to have, if  
25 some of the pharmaceuticals, for instance, are to be

1 used by roots, could you have --

2 MR. AUSENBAUGH: Thus far, we have been able  
3 to be satisfied that we can contain anything that we  
4 would have. It's a very dry mine, a very secure mine.  
5 Keeping in mind that from the type of physical  
6 containment that we're talking about, we're fully  
7 cognizant that we are going to control our runoff and  
8 go to lengths, you know, again, following potential  
9 biosafety levels that, you know, we will definitely  
10 contain that type of waste runoff.

11 MR. WACH: Do you perceive it being the  
12 responsibility of the owner, I guess it would be the  
13 owner of the plants, to deal with testing, testing of  
14 residues in the soil, testing of residues in the  
15 climature? Or are you going to provide that --

16 MR. AUSENBAUGH: I think that would be a  
17 joint responsibility between us and our partner. Our  
18 first tests, our first feasibility tests are going to  
19 be on plants that are exempt from NIH guidelines.  
20 What that does is that gives us the time to make sure  
21 that our system is -- I can't think of the word --  
22 make sure we've got a good, tight system, a system  
23 with a lot of integrity.

24 MR. HOFFMAN: So you said you were going to  
25 contain the water, but you would need an awful lot of



1 water. I just wondered if you thought about water  
2 treatment?

3 MR. AUSENBAUGH: Yes, yes, and when I talk  
4 about containment, we're going to contain the water  
5 until its treated, until it's deemed to be safe to be  
6 released. And, you know, we've looked at a number of  
7 different ways to utilize the water with regards to if  
8 we need to warm the roots, potentially running the  
9 water over, you know, in some kind of barrier to heat  
10 it by the growth lights and then run down through the  
11 roots to keep them warm.

12 Again, it's going to be really contention  
13 upon what kind of crop we use. So, but you know, our  
14 business is focused on offering that type of contained  
15 solution and taking all of those variables into  
16 account.

17 MR. HOFFMAN: Now you said your access to  
18 this is on a road level, you just drive a truck in  
19 there?

20 MR. AUSENBAUGH: Yes, it's essentially --

21 MR. HOFFMAN: It's a hill or a cliff?

22 MR. AUSENBAUGH: What you're doing is you're  
23 driving into the side of a cliff. And it's almost  
24 like an underground industrial park. There is  
25 essentially a shared main entrance, but then the

1 numerous roads fork off. So we would have a, you  
2 know, our own contained controlled ingress and egress  
3 from our particular space that we need demise  
4 appropriately.

5 MR. ROSELAND: Are you going to need special  
6 plants that are adapted to artificial environments?

7 MR. AUSENBAUGH: That will be part of our  
8 initial research. We're actually going to look at  
9 four different strains. We have a commercial partner  
10 who is going to supply us with different types of  
11 seeds that do different things at different  
12 temperatures and are proof positive will tell us which  
13 one is most effective and how it will be used the  
14 best.

15 MR. ROSELAND: Are those also genetically  
16 transformed plants or not?

17 MR. AUSENBAUGH: We're probably going to  
18 start with BT corn, just to, from the very initial, to  
19 help us kind of optimize our growth from corn. And  
20 then after we've established that proven concept, our  
21 next step will be to talk to potential users of pharma  
22 plants, true pharma plants, once we've got our system  
23 set up.

24 MR. WACH: I want to see it. I want a tour.

25 MS. KOEHLER: Have you visited any of the

1 other mines that are already engaged in this kind of  
2 business?

3 MR. AUSENBAUGH: I only know of one other  
4 company that's doing that and that's a company called  
5 Prairie Plant in Canada. I made an attempt a long  
6 time ago and I'm sure it was perceived as a direct  
7 competitor, so I frankly haven't had a lot of  
8 conversations. Again, from a business standpoint, the  
9 underground facility is what I call the sizzle in the  
10 steak, where we're trying to add value to potential  
11 users of our facility is number one, just the overall  
12 containment and, number two, and what is probably more  
13 important in a different form, but the ability to  
14 really speed this type of production up and enhance  
15 production by optimizing the inputs.

16 I mean, we are fully aware that we are going  
17 to be more expensive than traditional field  
18 production. But if we're able to potentially generate  
19 four generations of corn a year and we're able to show  
20 that we can shave drug development time off, that's a  
21 very large and valued proposition to drug makers.

22 MR. WACH: Do you filter the air?

23 MR. AUSENBAUGH: Oh, yes. We will, yes.  
24 We've got air tests scheduled on a regular basis.

25 MR. HOFFMAN: And plus plants are sensitive

1 to certain volatiles. Like you mentioned you've got  
2 all these tires that are stored there.

3 MR. AUSENBAUGH: Right.

4 MR. HOFFMAN: Those tires are going to give  
5 off gases that are going to affect the growth of the  
6 plants.

7 MR. AUSENBAUGH: Exactly, and again, I wish  
8 I could take you there right now. We will have a  
9 totally separate and contained facility from that. I  
10 mean, actually, that's the first thing that ran  
11 through my mind and we were actually looking at  
12 different ways. I don't know how well you can see it  
13 in this picture, but they've actually demised a lot of  
14 it using concrete block where there's not natural  
15 limestone.

16 One of the things we looked at was  
17 potentially using some sort of biodegradable shrink  
18 wrap for containment purposes. We're still trying to  
19 figure out whether or not what we're looking at off  
20 gases and whether that will affect the growth of the  
21 plants. We don't know yet.

22 MR. HOFFMAN: I couldn't tell what the walls  
23 were there. Is that some --

24 MR. AUSENBAUGH: That's limestone. That's  
25 the actual limestone that they've white washed.

1                   MR. HOFFMAN: And will water have an effect?  
2   There's going to be a lot of humidity there now.  
3   What effect will that have on limestone? The  
4   stalactites and --

5                   (Laughter.)

6                   MR. AUSENBAUGH: Right, a couple of things  
7   to keep in mind. First of all, this is not a cave.  
8   This is a man made mine. A lot of the mines that I've  
9   been in in actually finding this one do have water  
10   problems. The humidity in this particular mine does  
11   change. Part of our system will be to monitor and  
12   control that humidity. Typically in the summertime is  
13   when you have humidity issues. From a plant growth  
14   perspective, we like humidity. The only potential  
15   problem that we've uncovered thus far with the actual  
16   physical infrastructure is a possibility that if it  
17   gets too hot, you will start getting some sort of  
18   cracks. That will not be the issue with our facility,  
19   because we will maintain a higher degree of humidity.  
20   I mean, it will be humid in our space, regardless of  
21   what the humidity is on the other side of the wall.

22                  MR. HOFFMAN: Are you going to put cooling  
23   in there as well?

24                  MR. AUSENBAUGH: We don't think we're going  
25   to need cooling. It's, as an aside, one night I took

1 Dr. Mitchell down from Purdue all the way down, it's  
2 about a two and a half hour drive from Indianapolis,  
3 and all the way down, he was talking about and worried  
4 about heat build up and how are we going to get rid of  
5 the heat? Once I got him out there, he was more  
6 worried about keeping the heat in. I mean, it's just  
7 a very massive type of space.

8 MR. HOFFMAN: So you could have a pretty  
9 good fluctuations in temperature just by turning the  
10 lights on and off?

11 MR. AUSENBAUGH: We will have, again, we're  
12 starting at about 51 degrees, but the good news is  
13 we're starting at 51 degrees every single days.

14 MR. HOFFMAN: Well, I think you want  
15 fluctuations in temperature.

16 MR. AUSENBAUGH: Yes, right. And, you know,  
17 we will have the ability if we need to contain the  
18 heat, we can. I mean, if we need to build a big,  
19 underground cooler, you know, styrofoam walls all the  
20 way around to contain it, naturally we're going to  
21 have a lot of light and this light, the type of light  
22 that grows plants best is very inefficient light.  
23 We're fortunate enough to be in a starring position  
24 where we can use basically all of that heat for our  
25 facility. And that's also why we feel our utilities

1 costs are going to be competitive or cheaper than  
2 compared to that with above ground space.

3 MR. BLANCHETTE: Obviously, you're going to  
4 have to go in and out. How are you going to maintain  
5 that containment?

6 MR. AUSENBAUGH: That's part of the overall  
7 plan. WE're working closely with Purdue, as well as a  
8 contained environment engineering firm to come up with  
9 the process that that's done properly. We'll be using  
10 totally dedicated equipment, naturally and, you know,  
11 I know that that's part of the regulations with  
12 regards to dedicated equipment. And is it dedicated  
13 for one particular crop? We're certainly willing to  
14 work with whatever is the safest way, safest from a  
15 scientific basis.

16 MR. WACH: What about things like rats,  
17 mice?

18 MR. AUSENBAUGH: Believe it or not, unless  
19 you bring food in here, which we will be bringing food  
20 in here, it is shown to be a totally pest free  
21 facility. As in any field environment, we are fully  
22 aware of the possibility of that type of infestation  
23 and will address it as it happens. We do think that  
24 our risk of plant disease, we do think our risk, that  
25 the risks of, you know, infestation and the like, will

1 be severely -- not severely, substantially less than  
2 above ground.

3 MS. KOEHLER: What about waste, plant waste  
4 disposal? Are we building some kind of an  
5 incineration facility adjacent to this?

6 MR. AUSENBAUGH: If things go well and we  
7 have a lot of waste like that, yes. If not, it will  
8 be transported in a manner that conforms with all of  
9 the regulations and disposed of properly.

10 MS. SMITH: Okay, why don't we see -- okay,  
11 I was going to suggest, it sounds like we've got a lot  
12 of interest here in the technology, probably not a lot  
13 of specific questions about our notice. If there's  
14 any final questions or clarifications we can give you  
15 about our notice itself, let's move to those. And if  
16 not, what we could do is break the group and take our  
17 transcriber off the clock and have informal  
18 conversation after.

19 MR. AUSENBAUGH: Okay. I think just in  
20 closing that I'd like to say that from a personal  
21 perspective as well as Controlled Pharming Venture's  
22 perspective, I support what you're doing and I think  
23 it makes a lot of sense. And I also think that as I  
24 said in my opening comments, that a contained  
25 production solution for these types of plants, these



1 types of very high value plants, is not only feasible,  
2 but it's very cost effective and it is a way to get  
3 potentially life saving drugs to market safer, faster  
4 and cheaper. And with that, I thank you.

5 MS. SMITH: Okay, any final questions before  
6 we break? Okay, thank you for coming in. This has  
7 been very interesting discussion. We appreciate your  
8 time.

9 MR. AUSENBAUGH: Thank you.

10 MS. SMITH: Thank you.

11 (Whereupon, at 1:27 p.m., the meeting was  
12 adjourned.)

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REPORTER'S CERTIFICATE

DOCKET NO.: N/A  
CASE TITLE: Stakeholders Meeting  
HEARING DATE: February 26, 2004  
LOCATION: Riverdale, Maryland

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States Department of Agriculture.

Date: February 26, 2004

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